PATENT SPECIFICATION

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DRAWINGS ATTACHED

1 279 454

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(54) CIRCULAR KNITTING MACHINES

(71) We, C. TERROT SÖHNE, of Stuttgart-Bad Cannstatt Dürrheimerstrasse 12, Germany, a German K.G., do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to a circular knitting machine, in which a plurality of selecting mechanisms and knitting positions cooperate to knit a pattern. Hitherto, the needles have been respectively controlled by displaceable elements, for example jacks, which had to be returned to the normal position by a continually operable switching mechanism. It has therefore been necessary to develop apparatus in which these continual switching movements may be dispensed with.

In accordance with the invention there is provided a circular knitting machine having mounted in the cylinder a series of selector jacks, each comprising a bifurcated end receiving one end of a needle activating swinging jack, some of the series having a butt projecting upwardly in the longitudinal direction of the selector jacks and some of the series having a butt projecting downwardly in the longitudinal direction of the selector jacks there being provided grippers one on the upper side and one on the lower side of the respective butts, for resetting the selector jack.

Each gripper may be actuated by an electric, hydraulic, or pneumatic motor.

One construction according to the invention is diagrammatically illustrated, by way of example, in Figures 1 and 2 of the accompanying drawings, is which:—

Figure 1 is a diagram of the cams; and

Figure 2 is a diagram showing the interrelation between the selecting mechanism and the needles.

In the illustrated construction, patterns of single and multiple width may be produced.

Referring to the drawings, needles 7 rotate together with a cylinder (not shown), lowering and raising cams being mounted in a machine frame (also not shown).

In the drawings, reference numerals of individual machine elements are denoted by respective letters and two systems *a* and *b* are referred to; although it will be understood that there may be more.

From respective selector drums 1*a*, 1*b*, selector bars 2 act upon needle activating swinging jacks 5*a* and 5*b*, to which needles 7 are hinged, *via* selector jacks 3*a* and 3*b*, butts 6*b* and 6*a* of the needle activating swinging jacks 5*a*, 5*b* engaging with raising cams 9*b* and 10*a* to effect knitting. The needle activating swinging jacks 5*a* and 5*b* are lowered to complete knitting by a lowering cam 11*b* acting upon butts 8 of the needles 7.

Each needle activating swinging jack is received in a bifurcated end of its associated selector jack.

The paths along which the butts 6*a* and 6*b* of the needle activating swinging jacks 5*a* and 5*b* and the butts 8 move are indicated in broken lines in Figure 1.

The drawings also show machine elements which are inoperative when knitting double-width patterns. These elements are raising cams 10*b* and 9*a* and lowering cams 11*a*. These elements are required for knitting patterns of a single-width and rendered inoperative when multiple widths are being knitted.

The selector jacks 3*a* and 3*b* are returned to their initial position at periodic intervals by means of grippers 12*a* and 12*b* acting upon projections in the form of butts 4*a* and 4*b* on a butt of the selector jacks.

The butts 4*a* project downwardly in the longitudinal direction of the selector jacks while the butts 4*b* project upwardly in the longitudinal direction of the selector jacks.

Selector jacks, selector bars and grippers having three or four different configurations would be used for knitting patterns having triple or quadruple width; in which case only every third or fourth of the raising and lowering cams would operate to actuate the needles 7.

[*Price 25p*]

The projections 4*a* and 4*b* are adapted to engage the grippers 12*a* and 12*b* situated one on the upper and one on the lower side of the butt.

WHAT WE CLAIM IS:—

1. A circular knitting machine having mounted in the cylinder a series of selector jacks, each comprising a bifurcated end receiving one end of a needle activating swinging jack, some of the series having a butt projecting upwardly in the longitudinal direction of the selector jacks and some of the series having a butt projecting downwardly in the longitudinal direction of the selector jacks, there being provided grippers one on the upper side and one on the lower side of the respective butts, for resetting the selector jack.

2. A circular knitting machine according to claim 1, or claim 2, in which each gripper is actuated by an electric, hydraulic, or pneumatic motor.

3. A circular knitting machine according to any of claims 1 or 2, in which there are raising cams capable of raising the needles, there being lowering cams provided for returning the needles, respective raising cams and lowering cams being rendered inoperative upon passing from a single-width pattern to a multiple-width pattern.

4. A circular knitting machine, substantially as hereinbefore described and illustrated in the accompanying drawings.

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1 SHEET This drawing is a reproduction of the Original on a reduced scale

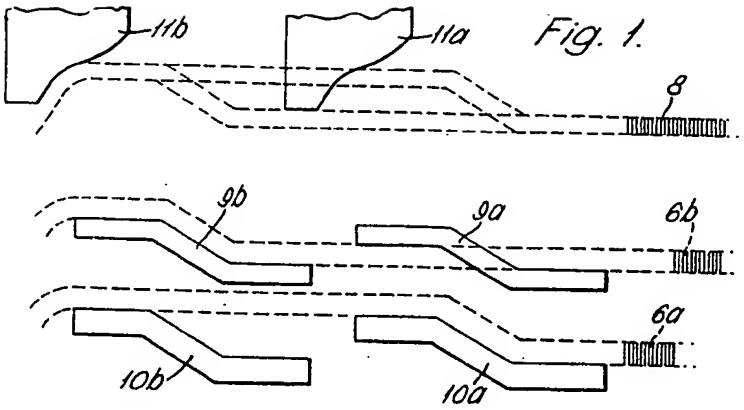

Fig. 1.

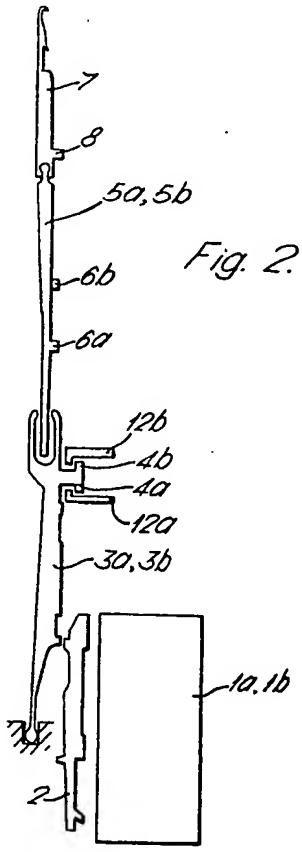

Fig. 2.